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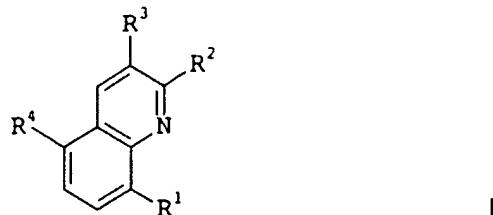
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CLEAN COPY OF ALL CLAIMS

1. (amended) A cyclohexenonequinolinoyl derivative of the formula I



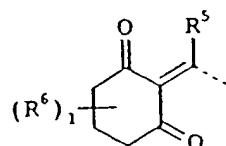
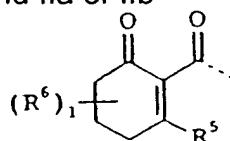
where:

R¹ is hydrogen, nitro, halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxyiminomethyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, aminosulfonyl, N-(C₁-C₆-alkyl)aminosulfonyl,
N, N-di-(C₁-C₆-alkyl) aminosulfonyl ,
N-(C₁-C₆-alkylsulfonyl)amino,
N-(C₁-C₆-haloalkylsulfonyl)amino,
N-(C₁-C₆-alkyl)-N-(C₁-C₆-alkylsulfonyl)amino,
N-(C₁-C₆-alkyl)-N-(C₁-C₆-haloalkylsulfonyl)amino,
phenoxy, heterocyclyloxy, phenylthio or heterocyclithio, it being
possible for the four last-mentioned radicals to be partially or fully
halogenated and/or to carry one to three of the following
substituents :

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl,
C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R², R³ are hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or halogen;

R⁴ is a compound IIa or IIb



where

IIa

IIb

R⁵ is halogen, OR⁷, SR⁷, SOR⁸, SO₂R⁸, OSO₂R⁸, POR⁸R⁹, OPR⁸R⁹,

OPOR⁸R⁹, OPSR⁸R⁹, NR¹⁰R¹¹, ONR¹¹R¹², N-linked heterocyclyl or O-(N-linked heterocyclyl), it being possible for the heterocyclyl radical of the two last-mentioned substituents to be partially or fully halogenated and/or to carry one to three of the following radicals: nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

C cont

R⁶ is nitro, halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, di-(C₁-C₆-alkoxy)methyl, di-(C₁-C₆-alkylthio)methyl, (C₁-C₆-alkoxy)(C₁-C₆-alkylthio)methyl, hydroxyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkoxycarbonyloxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, C₁-C₆-alkylcarbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl or C₁-C₆-haloalkoxycarbonyl;

or

two radicals , which are linked to the same carbon, together form an -O-(CH₂)_m-O-, -O-(CH₂)_m-S-, -S-(CH₂)_m-S-, -O-(CH₂)_n or -S-(CH₂)_n chain which is unsubstituted or substituted by one to three radicals from the following group: halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-alkoxycarbonyl;

or

two radicals , which are linked to the same carbon, together form a -(CH₂)_p chain which possibly is interrupted by oxygen or sulfur and/or is unsubstituted or substituted by one to four radicals from the following group: halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-

alkoxycarbonyl;

or

two radicals , which are linked to the same carbon,
together form a methyldene group which is unsubstituted or
substituted by one or two radicals from the following group:
halogen, hydroxyl, formyl, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-
C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-
C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl or C₁-C₆-
haloalkylsulfonyl;

or

two radicals , which are linked to the same carbon,
together with this carbon form a carbonyl group;

or

two radicals , which are linked to different carbons,
together form a -(CH₂)_n chain which is unsubstituted or substituted
by one to three radicals from the following group:
halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxyl or C₁-C₆-
alkoxycarbonyl;

R⁷

is C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl,
C₃-C₆-alkynyl, C₃-C₆-haloalkynyl, C₃-C₆-cyloalkyl,
C₁-C₂₀-alkylcarbonyl, C₂-C₆-alkenylcarbonyl,
C₂-C₆-alkynylcarbonyl, C₃-C₆-cyloalkylcarbonyl,
C₁-C₆-alkoxycarbonyl, C₃-C₆-alkenyloxycarbonyl,
C₃-C₆-alkynyloxycarbonyl,
(C₁-C₂₀-alkylthio)carbonyl,
C₁-C₆-alkylaminocarbonyl,
C₃-C₆-alkenylaminocarbonyl,
C₃-C₆-alkynylaminocarbonyl,
N,N-di-(C₁-C₆-alkyl)aminocarbonyl,
N-(C₃-C₆-alkenyl)-N-(C₁-C₆-alkyl) aminocarbonyl ,

N-(C₃-C₆-alkynyl)-N-(C₁-C₆-alkyl) aminocarbonyl,
N-(C₁-C₆-alkoxy)-
N-(C₁-C₆-alkyl) aminocarbonyl, N-(C₃-C₆-alkenyl)-
N-(C₁-C₆-alkoxy) aminocarbonyl, N-(C₃-C₆-alkynyl)-
N-(C₁-C₆-alkoxy) aminocarbonyl, di-(C₁-C₆-alkyl)-
aminothiocarbonyl, C₁-C₆-alkylcarbonyl-C₁-C₆-alkyl,
C₁-C₆-alkoxyimino-C₁-C₆-alkyl,
N-(C₁-C₆-alkylamino) imino-C₁-C₆-alkyl or
N,N-di-(C₁-C₆-alkylamino)imino-C₁-C₆-alkyl, it being possible for
the above-mentioned alkyl, cycloalkyl and alkoxy radicals to be partially or
fully halogenated and/or to carry one to three of the following groups:
cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄-alkyl)amino, C₁-C₄-
alkylcarbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-
alkoxycarbonyl, di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl,
hydroxycarbonyl, C₁-C₄-alkylaminocarbonyl, di-(C₁-C₄-
alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-alkylcarbonyloxy or C₃-
C₆-cycloalkyl;
phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl, heterocyclyl-C₁-C₆-alkyl,
phenylcarbonyl-C₁-C₆-alkyl, heterocyclylcarbonyl-C₁-C₆-alkyl,
phenylcarbonyl, heterocyclylcarbonyl, phenoxy carbonyl,
heterocycloloxy carbonyl, phenoxythiocarbonyl,
heterocycloloxythiocarbonyl, phenoxy-C₁-C₆-alkylcarbonyl,
heterocycloloxy-C₁-C₆-alkylcarbonyl, phenylaminocarbonyl, N-(C₁-
C₆-alkyl)-N-(phenyl)aminocarbonyl, heterocyclaminocarbonyl, N-(C₁-
C₆-alkyl)-N-(heterocyclyl)aminocarbonyl, phenyl-C₂-C₆-
alkenylcarbonyl or heterocycl-C₂-C₆-alkenylcarbonyl, it being
possible for the phenyl and the heterocyclyl radical of the 20 last-
mentioned substituents to be partially or fully halogenated and/or to
carry one to three of the following radicals:
nitro, cyano, C₁-C₄-alkyl, C₁-C₄-halogenalkyl, C₁-C₄-alkoxy or C₁-C₄-

haloalkoxy;

R⁸,R⁹ are C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl, C₃-C₆-alkynyl, C₃-C₆-haloalkynyl, C₃-C₆-cycloalkyl, hydroxyl, C₁-C₆-alkoxy, amino, C₁-C₆-alkylamino, C₁-C₆-haloalkylamino, di-(C₁-C₆-alkyl)amino or di-(C₁-C₆-haloalkyl)amino, it being possible for the abovementioned alkyl, cycloalkyl and alkoxy radicals to be partially or fully halogenated and/or to carry one to three of the following groups: cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄-alkyl)amino, C₁-C₄-alkylcarbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-alkoxycarbonyl, di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl, hydroxycarbonyl, C₁-C₄-alkylaminocarbonyl, di-(C₁-C₄-alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-alkylcarbonyloxy or C₃-C₆-cycloalkyl;

C1-C4

phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl, heterocyclyl-C₁-C₆-alkyl, phenoxy, heterocyclloxy, it being possible for the phenyl and the heterocyclyl radical of the last-mentioned substituents to be partially or fully halogenated and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R¹⁰ is C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl, C₃-C₆-alkynyl, C₃-C₆-haloalkynyl, C₃-C₆-cycloalkyl, hydroxyl, C₁-C₆-alkoxy, C₃-C₆-alkenyloxy, C₃-C₆-alkynyloxy, amino, C₁-C₆-alkylamino, di-(C₁-C₆-alkyl)amino or C₁-C₆-alkylcarbonylamino, where the abovementioned alkyl, cycloalkyl and alkoxy radicals may be partially or fully halogenated and/or may carry one to three radicals from the following group:

cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄-alkyl)amino, C₁-C₄-alkylcarbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-alkoxycarbonyl, di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl,

hydroxycarbonyl, C₁-C₄-alkylaminocarbonyl, di-(C₁-C₄-alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-alkylcarbonyloxy or C₃-C₆-cycloalkyl;

phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl or heterocyclyl-C₁-C₆-alkyl, where the phenyl or heterocyclyl radical of the four last-mentioned substituents may be partially or fully halogenated and/or may carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R¹¹,R¹²are C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl or C₁-C₆-alkylcarbonyl;

l is 0 to 6;

m is 2 to 4;

n is 1 to 5;

p is 2 to 5;

and their agriculturally useful salts.

2. (amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in claim 1 where

R¹ is halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio, heterocyclyoxy or phenylthio, it being possible for the two last-mentioned radicals to be partially or fully halogenated and/or to carry one to three of the substituents mentioned below:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R⁵ is halogen, OR⁷, SR⁷, SOR⁸, SO₂R⁸, OSO₂R⁸, OPR⁸R⁹, OPOR⁸R⁹ OPSR⁸R⁹, NR¹⁰R¹¹ or N-bonded heterocyclyl, which is unsubstituted or partially or fully halogenated and/or carries one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy .

3. (twice amended) A cyclohexenonequinolinoyl derivative of the formula I as

claimed in claim I, where

R⁵ is halogen, OR⁷, NR¹⁰R¹¹ or N-bonded heterocycll which is unsubstituted or partially or fully halogenated and/or carries one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy.

4. (twice amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in claim 1, where

R⁷ is C₁-C₆-alkyl, C₁-C₂₀-alkylcarbonyl, C₁-C₆-alkoxycarbonyl, (C₁-C₂₀-alkylthio)carbonyl, N,N-di-(C₁-C₆-alkyl)aminocarbonyl, phenyl, phenylcarbonyl or phenoxy-C₁-C₆-alkylcarbonyl, it being possible for the phenyl radical of the three last-mentioned substituents to be partially or fully halogenated and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R¹⁰ is C₁-C₆-alkyl or C₁-C₆-alkoxy;

R¹¹ is C₁-C₆-alkyl.

5. (twice amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in claim 1, where

R⁶ is nitro, halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, di-(C₁-C₆-alkoxy)methyl, di-(C₁-C₆-alkylthio)methyl, (C₁-C₆-alkoxy)(C₁-C₆-alkylthio)-methyl, hydroxyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkoxycarbonyloxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, C₁-C₆-alkylcarbonyl, C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl or C₁-C₆-haloalkoxycarbonyl;

or

two radicals , which are linked to the same carbon, together form

an $-O-(CH_2)_m-O-$, $-O-(CH_2)_m-S-$, $-S-(CH_2)_m-S-$, $-O-(CH_2)_n-$ or $-S-(CH_2)_n$ chain which is unsubstituted or substituted by one to three radicals from the following group :

halogen, cyano, C_1-C_4 -alkyl, C_1-C_4 -haloalkyl or C_1-C_4 -alkoxycarbonyl;

or

C' cont

two radicals , which are linked to the same carbon, together form a $-(CH_2)_p$ chain which possibly is interrupted by oxygen or sulfur and which is unsubstituted or substituted by one to four radicals from the following group :

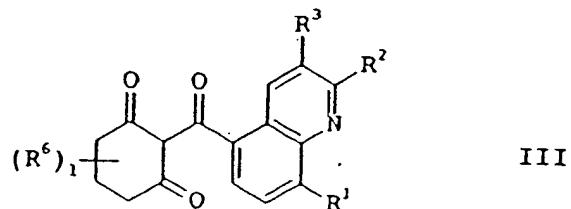
halogen, cyano, C_1-C_4 -alkyl, C_1-C_4 -haloalkyl or C_1-C_4 -alkoxycarbonyl ;

or

C' cont

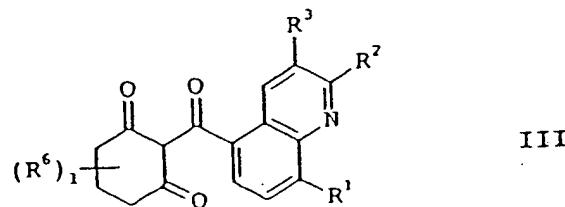
two radicals , which are linked to the same carbon, together with this carbon form a carbonyl group.

6. A process for preparing compounds of the formula I as claimed in claim 1 where R^5 = halogen, which comprises reacting a cyclohexanedione derivative of the formula III,

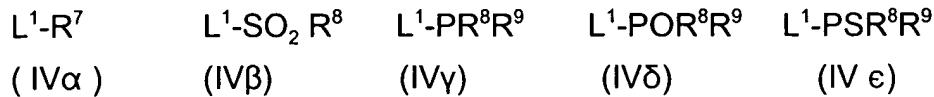


where the variables R^1 to R^3 , and I are each as defined in claim 1, with a halogenating agent.

7. A process for preparing compounds of the formula I as claimed in claim 1 where R^5 = OR^7 , OSO_2R^8 , OPR^8R^9 , $OPOR^8R^9$ or $OPSR^8R^9$, which comprises reacting a cyclohexanedione derivative of the formula III,

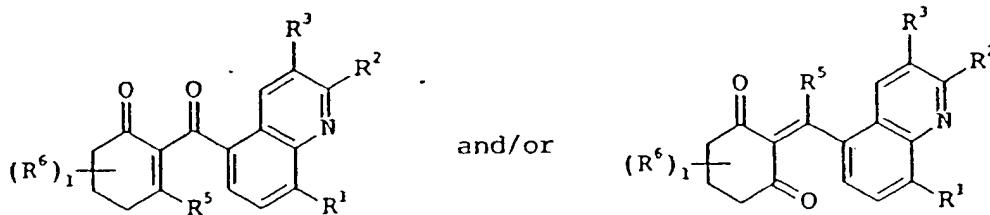


where the variables R¹ to R³, and I are each as defined in claim 1, with a compound of the formula IVα, IVβ, IVγ, IVδ or IVε,



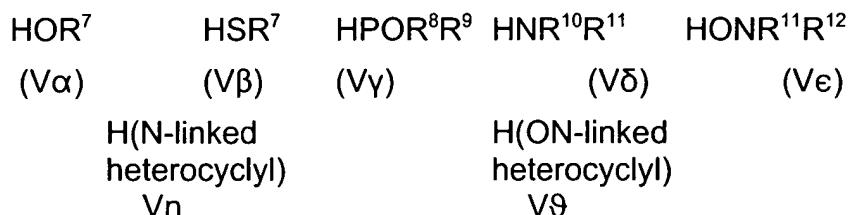
where the variables R⁷ to R⁹ are each as defined in claim 1 and L¹ is a nucleophilically replaceable leaving group.

8. A process for preparing compounds of the formula I as claimed in claim 1 where R⁵ = OR⁷, SR⁷, POR⁸R⁹, NR¹⁰R¹¹, ONR¹¹R¹², N-linked heterocyclyl or O-(N-linked heterocyclyl), which comprises reacting a compound of the formula I α (= I where R⁵ = halogen, OSO₂R⁸),



I where R⁵= halogen or OSO₂R⁸

where the variables R¹ to R³, R⁶ and I are each as defined in claim 1, with a compound of the formula Vα, Vβ, Vγ, Vδ, Vε, Vη, Vθ,



where the variables R⁷ to R¹² are each as defined in claim 1, if appropriate

in the presence of a base.

9. A process for preparing compounds of the formula I as claimed in claim 1, where
 $R^5 = SOR^8, SO_2R^8$, which comprises reacting a compound of the formula I β (\equiv I where $R^5 = SR^8$),



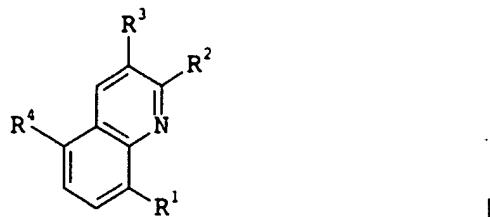
I where $R^5 = SR^8$

where the variables R^1 to R^8 and I are each as defined in claim 1, with an oxidizing agent.

10. (twice amended) A composition, comprising a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I as claimed in claim 1 and auxiliaries which are conventionally used for formulating crop protection agents.
C2
11. (twice amended) A process for preparing a composition as claimed in claim 10, which comprises mixing a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I and auxiliaries which are conventionally used for formulating crop protection agents.
12. A method for controlling undesirable vegetation, which comprises allowing a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative

of the formula I or an agriculturally useful salt of formula I as claimed in claim 1
to act on plants, their habitat and/or on seeds.

14. (amended) A cyclohexenonequinolinoyl derivative of the formula I



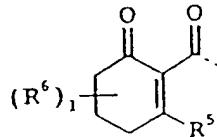
where:

R¹ is hydrogen, nitro, halogen, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxyiminomethyl, C₁-C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl, C₁-C₆-haloalkylsulfonyl, aminosulfonyl, N-(C₁-C₆--alkyl)aminosulfonyl,
N, N-di-(C₁-C₆-alkyl) aminosulfonyl ,
N-(C₁-C₆--alkylsulfonyl)amino,
N-(C₁-C₆-haloalkylsulfonyl)amino,
N-(C₁-C₆-alkyl)-N-(C₁-C₆-alkylsulfonyl)amino,
N-(C₁-C₆--alkyl)-N-(C₁-C₆-haloalkylsulfonyl)amino,
phenoxy, heterocyclyoxy, phenylthio or heterocyclithio, it being possible
for the four last-mentioned radicals to be partially or fully halogenated
and/or to carry one to three of the following substituents :
nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl,

C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

R², R³ are hydrogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl or halogen;

R⁴ is a compound IIa



where

R⁵ is halogen, OR⁷, SR⁷, SOR⁸, SO₂R⁸, OSO₂R⁸, POR⁸R⁹, OPR⁸R⁹,

OPOR⁸R⁹, OPSR⁸R⁹, NR¹⁰R¹¹, ONR¹¹R¹², N-linked heterocyclyl or

O-(N-linked heterocyclyl), it being possible for the heterocyclyl

radical of the two last-mentioned substituents to be partially or fully
halogenated and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-
haloalkoxy;

R⁶ is nitro, halogen, cyano, C₁-C₆-alkyl,

C₁-C₆-haloalkyl, di-(C₁-C₆-alkoxy)methyl,

di-(C₁-C₆-alkylthio)methyl,

(C₁-C₆-alkoxy)(C₁-C₆-alkylthio)methyl, hydroxyl,

C₁-C₆-alkoxy, C₁-C₆-haloalkoxy,

C₁-C₆-alkoxycarbonyloxy, C₁-C₆-alkylthio,

C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl,

C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl,

C₁-C₆-haloalkylsulfonyl, C₁-C₆-alkylcarbonyl,

C₁-C₆-haloalkylcarbonyl, C₁-C₆-alkoxycarbonyl or

C₁-C₆-haloalkoxycarbonyl;

or

two radicals , which are linked to the same carbon,

together form an -O-(CH₂)_m-O-, -O-(CH₂)_m-S-, -S-(CH₂)_m-S-, -O-

(CH₂)_n- or -S-(CH₂)_n chain which is unsubstituted or substituted by

one to three radicals from the following group:

halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-

alkoxycarbonyl;

or

two radicals , which are linked to the same carbon,

together form a -(CH₂)_p chain which possibly is interrupted by

oxygen or sulfur and/or is unsubstituted or substituted by one to

four radicals from the following group:

halogen, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl or C₁-C₄-

alkoxycarbonyl;

or

two radicals , which are linked to the same carbon,

together form a methylidene group which is unsubstituted or

substituted by one or two radicals from the following group:

halogen, hydroxyl, formyl, cyano, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-

C₆-alkoxy, C₁-C₆-haloalkoxy, C₁-C₆-alkylthio, C₁-C₆-haloalkylthio, C₁-C₆-alkylsulfinyl, C₁-C₆-haloalkylsulfinyl, C₁-C₆-alkylsulfonyl or C₁-C₆-haloalkylsulfonyl;

or

two radicals , which are linked to the same carbon,
together with this carbon form a carbonyl group;

or

two radicals , which are linked to different carbons,
together form a -(CH₂)_n chain which is unsubstituted or substituted
by one to three radicals from the following group:

halogen, C₁-C₆-alkyl, C₁-C₆-alkoxy, hydroxyl or C₁-C₆-alkoxycarbonyl;

C₃ cont

R⁷ is C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl,
C₃-C₆-alkynyl, C₃-C₆-haloalkynyl, C₃-C₆-cyloalkyl,
C₁-C₂₀-alkylcarbonyl, C₂-C₆-alkenylcarbonyl,
C₂-C₆-alkynylcarbonyl, C₃-C₆-cyloalkylcarbonyl,
C₁-C₆-alkoxycarbonyl, C₃-C₆-alkenyloxycarbonyl,
C₃-C₆-alkynyloxycarbonyl,
(C₁-C₂₀-alkylthio)carbonyl,
C₁-C₆-alkylaminocarbonyl,

C₃-C₆-alkenylaminocarbonyl,
C₃-C₆-alkynylaminocarbonyl,
N,N-di-(C₁-C₆-alkyl)aminocarbonyl,
N-(C₃-C₆-alkenyl)-N-(C₁-C₆-alkyl) aminocarbonyl ,
N-(C₃-C₆-alkynyl)-N-(C₁-C₆-alkyl) aminocarbonyl ,
N-(C₁-C₆-alkoxy)-
N-(C₁-C₆-alkyl) aminocarbonyl , N-(C₃-C₆-alkenyl)-
N-(C₁-C₆-alkoxy) aminocarbonyl , N-(C₃-C₆-alkynyl)-
N-(C₁-C₆-alkoxy) aminocarbonyl, di-(C₁-C₆-alkyl)-
aminothiocarbonyl, C₁-C₆-alkylcarbonyl-C₁-C₆-alkyl,
C₁-C₆-alkoxyimino-C₁-C₆-alkyl,
N-(C₁-C₆-alkylamino) imino-C₁-C₆-alkyl or
N,N-di-(C₁-C₆-alkylamino)imino-C₁-C₆-alkyl, it being possible for
the above-mentioned alkyl, cycloalkyl and alkoxy radicals to be partially or
fully halogenated and/or to carry one to three of the following groups:
cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄- alkyl)amino, C₁-C₄-
alkylcarbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-alkoxycarbonyl,
di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl, hydroxycarbonyl, C₁-C₄-
alkylaminocarbonyl, di-(C₁-C₄-alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-
alkylcarbonyloxy or C₃-C₆-cycloalkyl;
phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl, heterocyclyl-C₁-C₆-alkyl,

phenylcarbonyl-C₁-C₆-alkyl, heterocycl carbonyl-C₁-C₆-alkyl,
phenylcarbonyl, heterocycl carbonyl, phenoxy carbonyl,
heterocycl oxycarbonyl, phenoxythiocarbonyl,
heterocycl oxythiocarbonyl, phenoxy-C₁-C₆-alkyl carbonyl,
heterocycl oxy-C₁-C₆-alkyl carbonyl, phenylaminocarbonyl, N-(C₁-C₆-
alkyl)-N-(phenyl)aminocarbonyl, heterocycl aminocarbonyl, N-(C₁-C₆-
alkyl)-N-(heterocycl)aminocarbonyl, phenyl-C₂-C₆-alkenyl carbonyl or
heterocycl-C₂-C₆-alkenyl carbonyl, it being possible for the phenyl and
the heterocycl radical of the 20 last-mentioned substituents to be
partially or fully halogenated and/or to carry one to three of the following
radicals:

C₃ cont
nitro, cyano, C₁-C₄-alkyl, C₁-C₄-halogenalkyl, C₁-C₄-alkoxy or C₁-C₄-
haloalkoxy;

R⁸,R⁹ are C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl, C₃-C₆-alkynyl, C₃-
C₆-haloalkynyl, C₃-C₆-cycloalkyl, hydroxyl, C₁-C₆-alkoxy, amino, C₁-
C₆-alkylamino, C₁-C₆-haloalkylamino, di-(C₁-C₆-alkyl)amino or di-
(C₁-C₆-haloalkyl)amino, it being possible for the abovementioned
alkyl, cycloalkyl and alkoxy radicals to be partially or fully
halogenated and/or to carry one to three of the following groups:
cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄-alkyl)amino, C₁-C₄-
alkyl carbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-alkoxycarbonyl,

di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl,
hydroxycarbonyl, C₁-C₄-alkylaminocarbonyl, di-(C₁-C₄-
alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-alkylcarbonyloxy or C₃-
C₆-cycloalkyl;
phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl, heterocyclyl-C₁-C₆-alkyl, phenoxy,
heterocyclyoxy, it being possible for the phenyl and the heterocyclyl
radical of the last-mentioned substituents to be partially or fully
halogenated and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-
haloalkoxy;

C₃ cont

R¹⁰ is C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-haloalkenyl, C₃-C₆-alkynyl, C₃-
C₆-haloalkynyl, C₃-C₆-cycloalkyl, hydroxyl, C₁-C₆-alkoxy, C₃-C₆-
alkenyloxy, C₃-C₆-alkynyloxy, amino, C₁-C₆-alkylamino, di-(C₁-C₆-
alkyl)amino or C₁-C₆-alkylcarbonylamino, it being possible for the
abovementioned alkyl, cycloalkyl and alkoxy radicals to be partially
or fully halogenated and/or to carry one to three radicals from the
following group:

cyano, C₁-C₄-alkoxy, C₁-C₄-alkylthio, di-(C₁-C₄-alkyl)amino, C₁-C₄-
alkylcarbonyl, C₁-C₄-alkoxycarbonyl, C₁-C₄-alkoxy-C₁-C₄-
alkoxycarbonyl, di-(C₁-C₄-alkyl)amino-C₁-C₄-alkoxycarbonyl,
hydroxycarbonyl, C₁-C₄-alkylaminocarbonyl, di-(C₁-C₄-

alkyl)aminocarbonyl, aminocarbonyl, C₁-C₄-alkylcarbonyloxy or C₃-C₆-cycloalkyl;

phenyl, heterocyclyl, phenyl-C₁-C₆-alkyl or heterocyclyl-C₁-C₆-alkyl,
it being possible for the phenyl or heterocyclyl radical of the four
last-mentioned substituents to be partially or fully halogenated
and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-
haloalkoxy;

R¹¹,R¹²are C₁-C₆-alkyl, C₃-C₆-alkenyl, C₃-C₆-alkynyl or C₁-C₆-alkylcarbonyl;

I is 0 to 6;

m is 2 to 4;

n is 1 to 5;

p is 2 to 5;

and their agriculturally useful salts.

15. (amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in
claim 14, where

R¹ is halogen, C₁-C₆-alkyl, C₁-C₆-haloalkyl, C₁-C₆-alkoxy, C₁-C₆-alkylthio,
heterocyclxy or phenylthio, it being possible for the two last-mentioned
radicals to be partially or fully halogenated and/or to carry one to three of
the substituents mentioned below:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-

haloalkoxy;

R^5 is halogen, OR^7 , SR^7 , SOR^8 , SO_2R^8 , OSO_2R^8 , OPR^8R^9 , $OPOR^8R^9$, $OPSR^8R^9$, $NR^{10}R^{11}$ or N-bonded heterocyclyl which is unsubstituted or partially or fully halogenated and/or carries one to three of the following radicals:
nitro, cyano, C_1-C_4 -alkyl, C_1-C_4 -haloalkyl, C_1-C_4 -alkoxy or C_1-C_4 -haloalkoxy.

16. (amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in claim 14, where

R^5 is halogen, OR^7 , $NR^{10}R^{11}$ or N-bonded heterocyclyl which is unsubstituted or partially or fully halogenated and/or carries one to three of the following radicals:
nitro, cyano, C_1-C_4 -alkyl, C_1-C_4 -haloalkyl, C_1-C_4 -alkoxy or C_1-C_4 -haloalkoxy.

17. (amended) A cyclohexenonequinolinoyl derivative of the formula I as claimed in claim 14, where

R^7 is C_1-C_6 -alkyl, C_1-C_{20} -alkylcarbonyl, C_1-C_6 -alkoxycarbonyl, (C_1-C_{20} -alkylthio)carbonyl, N,N-di-(C_1-C_6 -alkyl)aminocarbonyl, phenyl, phenylcarbonyl or phenoxy- C_1-C_6 -alkylcarbonyl, it being possible for the phenyl radical of the three last-mentioned substituents to be partially or fully halogenated

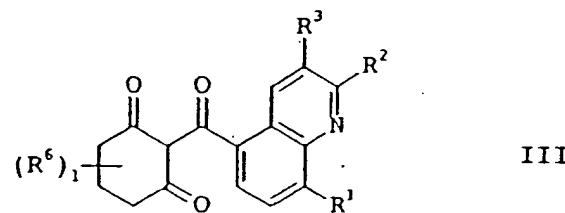
and/or to carry one to three of the following radicals:

nitro, cyano, C₁-C₄-alkyl, C₁-C₄-haloalkyl, C₁-C₄-alkoxy or C₁-C₄-haloalkoxy;

C³ worth
R¹⁰ is C₁-C₆-alkyl or C₁-C₆-alkoxy;

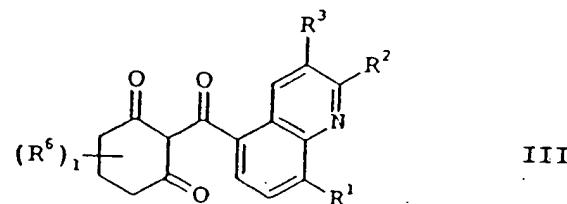
R¹¹ is C₁-C₆-alkyl..

18. A process for preparing compounds of the formula I as claimed in claim 14 where R⁵ = halogen, which comprises reacting a cyclohexanedione derivative of the formula III,

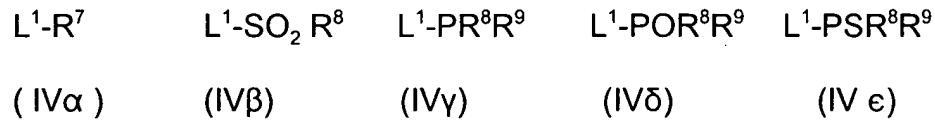


where the variables R¹ to R³, and I are each as defined in claim 14, with a halogenating agent.

19. A process for preparing compounds of the formula I as claimed in claim 14 where R⁵ = OR⁷, OSO₂R⁸, OPR⁸R⁹, OPOR⁸R⁹ or OPSR⁸R⁹, which comprises reacting a cyclohexanedione derivative of the formula III,

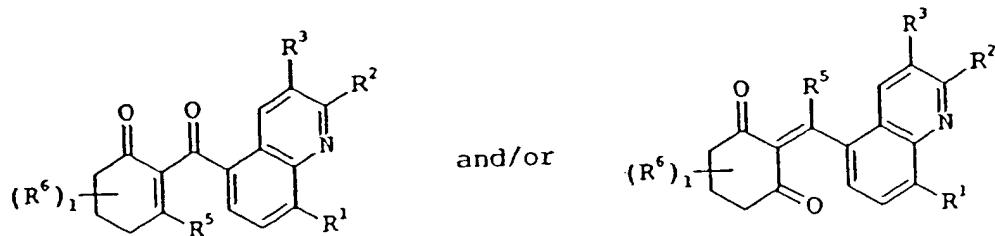


where the variables R¹ to R³, and I are each as defined in claim 14, with a compound of the formula IVα, IVβ, IVγ, IVδ or IVε,



where the variables R⁷ to R⁹ are each as defined in claim 14 and L¹ is a nucleophilically replaceable leaving group.

20. A process for preparing compounds of the formula I as claimed in claim 14 where R⁵ = OR⁷, SR⁷, POR⁸R⁹, NR¹⁰R¹¹, ONR¹¹R¹², N-linked heterocycll or O-(N-linked heterocycll), which comprises reacting a compound of the formula I α (= I where R⁵ = halogen, OSO₂R⁸),



I where R⁵= halogen or OSO₂R⁸

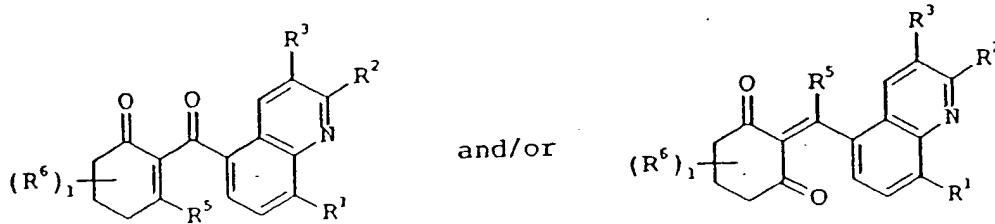
where the variables R¹ to R³, and I are each as defined in claim 14, with a compound of the formula Vα, Vβ, Vγ, Vδ, Vε, Vη, Vθ,

HOR ⁷ (V α)	HSR ⁷ (V β)	HPOR ⁸ R ⁹ (V γ)	HNR ¹⁰ R ¹¹ (V δ)	HONR ¹¹ R ¹² (V ϵ)
H(N-linked heterocyclyl) V η		H(ON-linked heterocyclyl) V θ		

where the variables R⁷ to R¹² are each as defined in claim 14, if

appropriate in the presence of a base.

21. A process for preparing compounds of the formula I as claimed in claim 14 where R⁵ = SOR⁸, SO₂R⁸, which comprises reacting a compound of the formula I β (\equiv I where R⁵ = SR⁸),



I where R⁵ = SR⁸

where the variables R¹ to R⁵, R⁷, R⁸ and I are each as defined in claim 14, with an oxidizing agent.

22. (amended) A composition, comprising a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I as claimed in claim 14 and auxiliaries which are

conventionally used for formulating crop protection agents.

- C 4
Crop*
23. (amended) A process for preparing a composition as claimed in claim 22, which comprises mixing a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I and auxiliaries which are conventionally used for formulating crop protection agents.
-
24. A method for controlling undesirable vegetation, which comprises allowing a herbicidally effective amount of at least one cyclohexenonequinolinoyl derivative of the formula I or an agriculturally useful salt of formula I as claimed in claim 14 to act on plants, their habitat and/or on seeds.